

(12) **United States Patent**  
**Chaudhri et al.**

(10) **Patent No.:** **US 8,046,721 B2**  
(45) **Date of Patent:** **\*Oct. 25, 2011**

(54) **UNLOCKING A DEVICE BY PERFORMING GESTURES ON AN UNLOCK IMAGE**

(56) **References Cited**

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U.S. PATENT DOCUMENTS

5,465,084 A	11/1995	Cottrell .....	340/825.31
5,559,961 A	9/1996	Blonder .....	395/188.01
5,677,710 A	10/1997	Thompson-Rohrlich .....	345/173
5,821,933 A	10/1998	Keller et al. ....	345/348
5,907,327 A	5/1999	Ogura et al. ....	345/339
6,151,208 A	11/2000	Bartlett .....	361/683
6,160,555 A	12/2000	Kang et al. ....	345/358
6,192,478 B1	2/2001	Elledge .....	713/202
6,249,606 B1	6/2001	Kiraly et al. ....	382/195

(Continued)

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FOREIGN PATENT DOCUMENTS

(\*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

EP 1 284 450 A2 2/2003  
(Continued)

This patent is subject to a terminal disclaimer.

OTHER PUBLICATIONS

IBM, "Access/Control Icons (Icon Keys)," IBM Technical Disclosure Bulletin, Vo. 38, No. 4, Apr. 1995.

(Continued)

(21) Appl. No.: **12/477,075**

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(22) Filed: **Jun. 2, 2009**

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(65) **Prior Publication Data**

US 2009/0241072 A1 Sep. 24, 2009

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**Related U.S. Application Data**

(63) Continuation of application No. 11/322,549, filed on Dec. 23, 2005, now Pat. No. 7,657,849.

(57) **ABSTRACT**

(51) **Int. Cl.**  
**G06F 3/033** (2006.01)

A device with a touch-sensitive display may be unlocked via gestures performed on the touch-sensitive display. The device is unlocked if contact with the display corresponds to a predefined gesture for unlocking the device. The device displays one or more unlock images with respect to which the predefined gesture is to be performed in order to unlock the device. The performance of the predefined gesture with respect to the unlock image may include moving the unlock image to a predefined location and/or moving the unlock image along a predefined path. The device may also display visual cues of the predefined gesture on the touch screen to remind a user of the gesture.

(52) **U.S. Cl.** ..... **715/863**; 345/173; 345/179

(58) **Field of Classification Search** ..... 715/154, 715/863; 345/156

See application file for complete search history.

**15 Claims, 15 Drawing Sheets**

